REMARKS

Claims 1-8, 10-15, 17-23, and 27 are currently pending in the subject application and are presently under consideration. Claims 1, 14, 15, 23 and 27 have been amended as shown on pp. 2 and 4-6 of the Reply.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Rejection of Claims 1-8 and 9-14 Under 35 U.S.C. §103(a)

Claims 1-8 and 9-14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Arnold, *et al.* (US Patent 6,393,497) in view of Applicant's admitted prior art (AAPA), in further view of Clarke, *et al.* (US Publication 2002/0035642). It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Arnold, *et al.*, Applicant's admitted prior art, and Clarke, *et al.*, alone or in combination, fail to teach or suggest each and every limitation of applicants' claimed invention.

Applicants' subject claims relate to a system that facilitates application developers creating proxies, accessing method call interception functionality, retrieving information associated with a method call that can be intercepted by the interception functionality and adapting and/or extending the functionality of object systems. In particular, independent claim 1 (and similarly independent claim 14) recites ***the method call interceptor accessible to application code to at least one of adapt or extend functionalities***. Arnold, *et al.*, Applicant's admitted prior art, and Clarke, *et al.*, alone or in combination, do not teach this novel aspect.

Arnold, *et al.* relates to a system and method that employs a smart proxy as a wrapper around a stub in a distributed system. The system transmits a request for an object and receives a response to the request, which includes code that is employed to construct a representation of the requested object. The system creates the representation and employs it for processing calls to the object, local to the requesting object using the representation. However, Arnold, *et al.* fails to disclose a component for method call interception that can be accessed by application code to adapt and/or extend system functionalities.

Clarke, *et al.* teaches a system and method that manages network traffic by employing an intermediary node, such as a proxy, that implements a flow control algorithm to avoid network congestion. The system includes a server that returns an error response when it receives a

request that it cannot handle from the client. This response is passed back to the client *via* a proxy, which recognizes the response type and learns a back off time for the server. Incase a disparate client sends a request to the server, the proxy returns a back off signal to the disparate client and reduces the number of requests reaching the congested server. However, Clarke, *et al.* is silent with respect to a method call intercepting component that facilitate adapting and/or extending functionalities by application code.

Applicants' admitted prior art discloses intercepting a method call invoked on an object that is imaged by a proxy is typically performed by a system-level object system and thus is not accessible to application developers. Similarly, data associated with the system-level object system is conventionally not available to application developers. Furthermore, conventional system-level object systems do not allow application developers to create proxies and thus conventional systems are inflexible and difficult to extend and/or adapt to various user contexts and needs. Typically, code associated with the system-level object system written by system programmers (*e.g.,* operating system company employees) and is not accessible to application programmers, and if accessible it is typically ***not adaptable by application programmers***.

Applicants' claimed subject matter relates to a system that employs application developer coded extensible proxies that have access to method interception and remote functionality and data. The disclosed system facilitates method call interception wherein control passes from the method caller to a proxy, rather than from the method caller to a remote object. While such interception and routing is conventionally performed by system code, *the disclosed system facilitates gaining access to such interception and routing functionality.* Thus, the proxy includes a customized proxy component that can be written in application code by application programmers and which has access to the interception and routing functionality provided by system code (*e.g.,* operating system, intercepting infrastructure, remoting infrastructure, distributed object system). The customized proxy component can be, therefore, operable to adapt and/or extend the functionality provided by a conventional proxy. Furthermore, application code may be employed in actions including, but not limited to, monitoring remote method calls, caching local data, caching remote data, controlling remote method call invocations and machine learning involved in optimizing remote method call invocation. (*See* page 11, lines 3-25.) The method caller may be, for example, a process, a thread, an object, an application and the like. When the method caller makes a method call on an object, a remoting

infrastructure and/or an intercepting infrastructure may intercept the method call and route the call to a proxy that images the object on which the method call was invoked. The proxy has been customized with an application code customized proxy. The application code customized proxy can be written by an application programmer in application code. The remoting infrastructure and/or an intercepting infrastructure may update a message object with information related to the method call made by the method caller (*See* page 20, line 26 to page 21, line 4). Arnold, *et al.*, Applicants' admitted prior art and Clarke, *et al.*, alone or in combination, fail to teach the aforementioned novel aspects.

In view of at least the foregoing, it is readily apparent that Arnold, *et al.*, Applicants' admitted prior art and Clarke, *et al.*, alone or in combination, do not teach or suggest applicants' claimed subject matter as recited in independent claims 1 and 14 (and claims 2-13 which respectively depend there from). Thus, this rejection should be withdrawn.

II. Rejection of Claims 15 and 20-22 Under 35 U.S.C. §103(a)

Claims 15 and 20-22 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Colyer (US Patent 5,903,725) in view of Clarke, *et al.* (US Publication 2002/0035642) in view of Applicants' admitted prior art. It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. Colyer, Clarke, *et al.* and applicants' admitted prior art, alone or in combination, fail to teach or suggest each and every limitation of the subject claims.

Applicants' subject claims relate to application developer coded extensible proxies that have access to method interception and remoting functionality and data. In particular, Independent claim 15, as amended, recites ***interception of a method call that is made accessible to a developer to at least one of adapt or extend functionalities***. The cited references, alone or in combination, fail to disclose this novel feature.

Colyer teaches a system that creates recoverable proxies to protect a server against invalid usage of proxy objects. Specifically, the system transparently re-creates proxy objects in a client of a client-server distributed processing system. On malfunction of a server, and consequently invalidity of the proxy objects, a proxy register object causes all proxy objects to be refreshed. However, Colyer fails to disclose interception of a method call that is made accessible to a developer to at least one of adapt or extend functionalities.

Clarke, *et al*. relates to a system and method to control network traffic by employing an intermediary node, such as a proxy, that implements a flow control algorithm to avoid network congestion and as discussed above does not teach or suggest interception of a method call that is made accessible to a developer to at least one of adapt or extend functionalities. Furthermore, applicants' admitted prior art does not cure the aforementioned deficiency with respect to Clarke, *et al*., as seen *supra*.

Thus, it is readily apparent that the cited references, alone or in combination, do not teach or suggest applicants' claimed subject matter as recited in independent claim 15 (and claims 20-22 which respectively depend there from). Accordingly, withdrawal of this rejection is requested.

III. Rejection of Claims 17-19, 23 and 27 Under 35 U.S.C. §103(a)

Claims 17-19, 23 and 27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Colyer (US Patent 5,903,725) and Clarke, *et al.* (US Publication 2002/0035642) in view of Arnold, *et al.* (US Patent 6,393,497) and in further in view of Applicants' admitted prior art. It is respectfully submitted that this rejection should be withdrawn for at least the following reasons. The cited references, alone or in combination, fail to teach or suggest each and every limitation of applicants' claimed invention.

Independent claims 15, 23 and 27 recite similar aspects of a method call interception being made accessible to a developer to adapt and/or extend functionalities. As discussed above, Colyer and Clarke, *et al.*, alone or in combination do not disclose a system or method that intercepts a method call ***and makes such an interception accessible to an application developer to adapt and/or extend functionalities.*** Furthermore, Arnold, *et al.* and Applicants' admitted prior art is silent with respect to a method call interceptor that is accessible to application code ***for adapting and/or extending system functionalities*** and fails to remedy the aforementioned deficiencies of Colyer and Clarke, *et al*.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [MSFTP243US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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